

PROCEEDINGS OF LEARNED SOCIETIES.

GEOLOGICAL SOCIETY.

November 4th, 1908.—Prof. W. J. Sollas, LL.D., Sc.D., F.R.S.,
President, in the Chair.

The following communication was read:—

‘On the Fossil Plants of the Waldershare and Fredville Series of the Kent Coalfield.’ By E. A. Newell Arber, M.A., F.L.S., F.G.S.

At the boring at Shakespeare Cliff, Dover, Coal-Measures were reached in 1890 at a depth of 1100 feet, and subsequently penetrated to a depth of about 2270 feet. Thirteen seams of coal, varying in thickness from 1 to 4 feet, were pierced. Coal-Measures were struck at 1394 feet at the boring in Waldershare Park, and pierced for 1260 feet more. Five seams of coal, varying from 1 foot 4 inches to 5 feet 2 inches in thickness, were struck. The boring near Fredville Park reached Coal-Measures at 1363 feet, pierced three seams of coal, and was continued to a depth of 1813 feet. The specimens of plants collected from the Waldershare and Fredville borings are dealt with in detail, and compared with plants found at Dover and in other localities in Britain and abroad. The more abundant and characteristic species are common to Waldershare and Fredville, and lead to the conclusion that the beds belong to the same horizon. The majority of species tabulated are either confined to the Upper Coal-Measures and the Transition Series below, or are Middle and Lower Coal-Measure forms which are known to occur in the Transition Series. Indeed, all but two plants have been recorded from the last horizon. Thus the beds are the homotaxial equivalents of the Newcastle, Etruria, and Black-Band horizons of North Staffordshire, the Hamstead Beds below 1233 feet in South Staffordshire, the Coed-yr-allt Beds and Ruabon Marls of Denbighshire, the Ardwick Series and Beds above the Bradford Four-Foot Coal in South Lancashire, the Lower Pennant Grit of South Wales, and the New Rock and Vobster Series of Somerset. The data with regard to Dover are too scanty for certainty, but they seem to indicate approximately the same horizon as the two other Kentish localities. The majority of species are also common to the highest zone, or the ‘Charbons Gras,’ in the Pas de Calais. The flora of these rocks, and of those on the same tectonic line, belongs to the lower of the two great Continental zones of the Upper Carboniferous—the Westphalian; and the higher zone, the Stephanian, is unrepresented in the Mendip-Artois series of basins. But, as this axis is followed from east to west, it appears that continuously higher horizons are met with.